



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

January 19, 2007

In Reply Refer To: WTR-7

Charles Nielson, Western Division Plant Manager
United Gilsonite Laboratories
20 Enterprise Way
Dayton, Nevada 89403-7305

Re: July 19, 2006 Clean Water Act Inspection

Dear Mr. Nielson:

Enclosed is the January 19, 2007 report for our July 19 inspection of United Gilsonite. Please submit a short response to the findings in Sections 2 through 5 of this report, to EPA, Lyon County, and the Nevada Department of Environmental Protection, by **March 30, 2007**.

The main findings are summarized below:

- 1 UGL Dayton qualifies as a paint formulator subject to 40 CFR 446. The Federal rule prohibits the discharge of all process wastewaters if solvents are used in tank cleaning.
- 2 There are no process-related wastewater discharges to the sewers. If solvents are not used for tank cleaning then excess wash waters could be discharged upon obtaining a permit from Lyon County. If solvents are used then all wastewaters generated on-site must be off-hauled for disposal. Obtaining a permit would require installation of a sampling station and comprehensive sampling results. On-going discharge would require twice-per-year sampling for toxic organics, oil and grease, pH, suspended solids, and zinc.
- 3 At least three floor drains were identified although there may be others. All floor drains must be identified and either sealed (solvent tank cleaning) or covered or bermed (non-solvent cleaning) in order to minimize the risk of an inadvertent discharge to the sewers.

I certainly appreciate the helpfulness extended to me during this inspection by Mr. William D'Andrea and yourself. I remain available to Lyon County and to you to assist in any way. Please do not hesitate to call me at (415) 972-3504 or e-mail at arthur.greg@epa.gov.

Sincerely,

Greg V. Arthur
CWA Compliance Office

Enclosure

cc: Joe Maez, NDEP
Skeet Sellers, Lyon County



U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION 9

CLEAN WATER ACT COMPLIANCE OFFICE

NPDES COMPLIANCE EVALUATION INSPECTION REPORT

Industrial User: United Gilsonite Laboratories, Western Division
20 Enterprise Way, Dayton, Nevada 89403-7305
New Source Paint Formulating (40 CFR 446)

Treatment Works: Lyon County Utilities Department
South Dayton Valley Wastewater Treatment Plant
(No NPDES Permit - Nevada Permit NEV10017)

Date of Inspection: July 19, 2006

Inspection Participants:

US EPA: Greg V. Arthur, Region 9, CWA Compliance Office, (415) 972-3504

State of Nevada: Joe Maez, NDEP, Bureau of Water Pollution Control, (775) 687-9431
Steve McGoff, NDEP, Bureau of Water Poll Control

Lyon County: No Representative

UGL Dayton: Charles Nielson, Plant Manager, (775) 246-7611
William D'Andrea, General Mgr of Mfg/PlantOps, (570) 344-1202

Report Prepared By: Greg V. Arthur, Environmental Engineer

January 19, 2007



1.0 Scope and Purpose

On July 19, 2006 EPA, the Nevada Department of Environmental Protection (“NDEP”), and Lyon County conducted a compliance evaluation inspection of United Gilsonite Laboratories in Dayton, Nevada (UGL Dayton). The purpose was to ensure compliance with the Federal, State and local regulations covering the discharge of non-domestic wastewaters into the sewers under the Clean Water Act and the Nevada Revised Statutes. In particular, it was to ensure:

- Classification in the proper Federal categories;
- Application of the correct Federal, State and local standards at correct sampling points;
- Consistent compliance with the standards; and
- Fulfillment of Federal self-monitoring requirements.

UGL Dayton qualifies as an oil-based paint formulator subject to the Federal standards in 40 CFR 446 within the Lyon County Utilities sewer service area. Lyon County operates the South Dayton Valley wastewater treatment plant under a State of Nevada ground water permit. It does not operate under an NPDES permit because the treatment plant discharges to ground waters and to a golf course for reclaim. Lyon County Utilities does qualify under the Clean Water Act as a publicly-owned treatment works (“POTW”) subject to the Federal regulations for pretreatment and sludge in 40 CFR 403 and 503. The inspection participants are listed on the title page. Arthur conducted this inspection on July 19.

1.1 Process Description

UGL Dayton manufactures oil-based polyurethane clear finishes, oil-based stains, latex concrete paint, latex water proofing, and latex wood patch. UGL Dayton mixes pre-formulated ingredients and fills the final products into packaging. The ingredients and packaging all are supplied by outside vendors. The operations take place in a tank storage room, mixing room, and filling room. The tank room comprises nine 7,000 gallon tanks holding water proofing, resin, glycol ether, mineral spirits, and latex, all surrounded by secondary containment. Operations began in 1995. The operations do not involve the chemical formulation of the latex, resin, mineral-spirits, or pigment ingredients, or the manufacturing of packaging.

1.2 Facility SIC Code

UGL Dayton is assigned the SIC code for the manufacturing of paints, varnishes, lacquers, enamels, and allied products, including wood fillers (SIC 2851).

1.3 Wastewater Sources and Handling

During this inspection, no process-related wastewaters were discharged to the Lyon County sewers. The only identified inlets to the sewers were drop inlet floor drains, one in the filling



room, and two in the warehouse. These sewer inlets were not physically traced. As-built plans indicated their eventual connection to the Lyon County domestic sewer.



*Photo: Filling Room - Floor Drain
Taken By: Greg V. Arthur
Date: 07/20/06*

Water-based Products - UGL Dayton did not discharge into the floor drains. However, UGL Dayton does generate wash waters from the cleaning of filling tanks and mixing equipment between color and product line changes. According to UGL Dayton, white product is not washed out when followed by darker colors such as beige, grey, and blue. Out of sequence color changes require equipment cleaning. The wash waters can be used for latex-based product make-up but the excess is now off-hauled along with residual solids for disposal. UGL Dayton intends to obtain a permit to allow the discharge of the excess wash water to the sewers. A similar UGL Scranton facility in Pennsylvania discharges to the local domestic sewers under an industrial user permit.

Oil-based Products – UGL Dayton formulates mineral-spirits based stains and polyurethane clear finishes. No solvent clean-up methods were observed but it was not determined whether solvents are used in practice.

1.4 POTW Wastewater Treatment

State and Federal Legal Authorities – Lyon County operates the South Dayton Valley wastewater treatment plant under the authority of NDEP permit NEV10017 for the discharge of treated wastewater for reclaim and to the ground water. Lyon County does not possess a Federal NPDES permit issued under the Clean Water Act because the treated sewage does not discharge to surface waters. Nevertheless, Lyon County does qualify as a publicly-owned treatment works (“POTW”) under the Federal definition in 40 CFR 403.3(o) because the wastewater treatment plant treats mixed domestic and non-domestic wastewaters and its sludges are regulated under the Clean Water Act by the Federal regulations in 40 CFR 503.

POTW Configuration – The South Dayton Valley wastewater treatment plant consists of two treatment trains: a sequencing batch reactor (“SBR”) and extended aeration lagoons. The City of Dayton generates an average of 220,000 gpd of domestic sewage. The domestic sewage feeds at a constant 140,000 gpd rate into the SBR. The remaining domestic flows are



diverted through a splitter to the extended aeration lagoons. The SBR provides aerobic degradation, nitrification, and denitrification. In addition, the Dayton Valley business park generates an average of 60,000 gpd of process-related wastewaters and domestic sewage. Business park wastewaters, excess domestic sewage from city averaging 80,000 gpd, and the aerobic digester sludge from the SBR feed into the first of four lagoons. Primary Ponds #1 and #2 are aerated lagoons in series. Secondary Ponds #A and #B are facultative lagoons operated one at a time. The facultative lagoons discharge without chlorination to a rapid infiltration basin. The SBR discharges without chlorination to a golf course for reclaim.

1.5 State and Local Legal Authorities

There are no local or State permits in effect directly regulating the discharge of non-domestic wastewaters from UGL Dayton to the Lyon County sewers. However, a State permit issued to Lyon County indirectly would affect any discharge from UGL Dayton. The State permit imposes ground water quality discharge limits upon the city sewage treatment plant and the Federal sludge standards to the disposal of city sewage treatment plant sludge.

Ground Water Permit for Lyon County - Permit NEV10017 does not require Lyon County to obtain an approved pretreatment program. This is in keeping with the Federal regulations in 40 CFR 403.8(a) that allow for, but do not mandate, States or EPA to require small POTWs with design capacities under 5.0 mgd to obtain approved pretreatment programs. The permit also does not impose any pretreatment provisions. However, NDEP has recommended that Lyon County obtain an approved pretreatment program. Lyon County drafted a sewer use ordinance (reviewed by EPA) but as of yet has not adopted it into municipal law.

Sewer Discharge Permits for UGL Dayton - Lyon County cannot issue its own local industrial user permits until the ordinance is adopted and the pretreatment program is funded by the Lyon County supervisors. NDEP has not issued a site-specific ground water permit that extends the Nevada revised statutes to UGL Dayton, as an industrial discharger into a sewage treatment plant regulated under a State ground water permit.

1.6 Compliance Sampling

There currently is no identified location that could serve as an overall compliance sampling point for non-domestic wastewater discharges to the sewers.

1.7 Photo Documentation

Arthur took one digital photo during this inspection, stored as the jpeg file named *ugl-1.jpg*.



2.0 Sewer Discharge Standards and Limits

Federal categorical pretreatment standards (where they exist), national prohibitions, State groundwater, and the local limits (where they exist) must be applied to the sewer discharges from industrial users. (40 CFR 403.5 and 403.6).

Summary

UGL Dayton qualifies as an oil-based paint formulator subject to the Federal standards in 40 CFR 446 under the Clean Water Act. The Federal oil-based paint formulating rule prohibits the discharge of any process wastewaters where tank cleaning is performed using solvents. No Federal standards apply to the wastewaters generated through latex-based paint formulation. However, a wastewater discharge from latex-based paint formulation would be subject to the self-implementing authority of the national prohibitions in 40 CFR 403.5(a)(b). Once Lyon County obtains pretreatment program approval, its local limits would be technically-based on the State ground water limits and Federal sludge standards that apply to the South Dayton Valley wastewater treatment plant. The application of Federal standards, national prohibitions, and local limits was determined through visual inspection. *See* Appendix 1.

Requirements

- The Federal oil-based paint formulation rules specifically prohibit any process wastewater discharge to the sewers when tank cleaning involves solvents.
- Any permit must apply technically-based local limits derived from the regulatory requirements that now apply to the South Dayton Valley wastewater treatment plant.

Recommendations

- UGL Dayton should describe its standard operating procedures for tank and equipment cleaning both for oil-based and latex-based paint formulation.
- If there is no solvent cleaning of tanks, excess wash waters should be sampled for zinc, oil and grease, toxic organics, and pH at least once as part of the permit application.
- If there is no solvent cleaning of tanks, then a sampling station comprising a holding tank that discharges to one of the floor drains should be established as the permitted discharge sampling point.

2.1 Classification by Federal Point Source Category

UGL Dayton qualifies as an oil-based paint formulator subject to the Federal standards in 40 CFR 446 under the Clean Water Act. UGL Dayton does not qualify as a categorical industrial user subject to any of the other Federal standards in 40 CFRs 407-471. In particular, UGL Dayton does not qualify under rules for organic chemical, pesticides, and synthetic



fibers (“OCPSF”) in 40 CFR 414, because the operations do not (1) involve the manufacturing of the products and product groups listed in the rule (2) at facilities that are referenced under the listed SIC codes. Specifically regarding the first condition, the products and product groups listed in the rule are manufactured through the reaction chemistries referenced in the development document for the rule (such as polymerization, condensation, alkylation, etc.). The OCPSF rule would not apply to UGL Dayton because the paint formulation operations do not involve any reaction chemistries. It is likely that the OCPSF rule would apply to the manufacturers of the paint formulation ingredients such as resins, latex, glycol ether, and the water proofing agent.

2.2 Local Limits and National Prohibitions

Local limits and national prohibitions are meant to express the limitations on non-domestic discharges necessary to protect the sewers, treatment plants, treatment plant sludges, and their receiving waters from adverse impacts. Generally, technically-based numerical local limits supplant national prohibitions and any site-specific State limits. *See* Appendix 1 for the national prohibitions and local limits that currently apply.

National Prohibitions – For POTWs to surface waters, the national prohibitions in 40 CFR 403.5 prohibit discharges that can cause the pass-through of pollutants into the receiving waters, operational interference of the treatment works, sewage sludge contamination, sewer worker health and safety risks, fire or explosive risks, and corrosive sewer damage. Pass-through and interference, however, as defined in the Federal regulations only occur when NPDES permit limits are violated. So with no NPDES permit for Lyon County, the national prohibitions cannot prohibit discharges that result in violations of the NDEP ground water permit either through pass-through or operational interference. They do however prohibit discharges that cause unpermitted discharges or bypasses to surface waters.

Local Limits – However, local limits should protect the POTW from all adverse impacts including violations of State permits. In this case, technically-based local limits would be approved if they restrict discharges that can cause the pass-through of pollutants and operational interference resulting in violations of the NDEP ground water permit for Lyon County. Local limits still need to be adopted based on the performance of the sewage treatment plants and the current regulatory requirements in the NDEP permit and the Federal sludge regulations. They would apply to all non-domestic discharges in its service area upon adoption.

2.3 Federal Categorical Pretreatment Standards New Source Oil-Based Paint Formulation - 40 CFR 446.16

40 CFR 446.16	For Oil-based Paint Formulation with Solvent Tank Cleaning
There shall be no discharge of process water pollutants to a publicly owned treatment works.	

Applicability - Under 40 CFR 446.10, the oil-based paint formulating standards apply to the process wastewaters related to the production of oil-based paint where the tank cleaning is



performed using solvents. Essentially this either (1) restricts cleaning of tanks used for oil-based paint formulation to physical scraping or through product make-up, or (2) if tank cleaning involves solvents, the capture and off-site hauling of all rinses, spents, wash waters, and drainage from all oil- and latex-based paint formulation processes. These restrictions apply to the entire facility because of the performance of oil-based paint formulation on-site.

2.4 Compliance Sampling

If there is no solvent cleaning of tanks, then a discharge sampling point at a sampling station would need to be established as part of a permit application for the discharge of excess wash waters to the sewer. The floor drain inlets could not serve as sampling points as they are currently configured. UGL Dayton would have to install a holding tank with a piped discharge to one of the floor drain inlets. A sampling port on the piped discharge could then serve as the permitted discharge sampling point.

2.5 Pollutants of Concern

The pollutants of concern for UGL Dayton comprise those regulated by the national prohibitions and site-specific pollutants for which there is a potential to cause the South Dayton Valley wastewater treatment plant to violate its NDEP permit or Federal sludge limits.

National Prohibitions – The pollutant measures regulated by the national prohibitions would include pH for corrosivity, *40 CFR 403.5(b)(2)*, and closed-cup flashpoint for flammability, *40 CFR 403.5(b)(1)*.

Local Limits – Site-specific pollutants can cause violations of the NDEP permit or Federal sludge limits in two ways. First, the pollutants could cause an operational interference of the treatment works which results in either (1) the unauthorized release of untreated or partially treated sewage or (2) the violation of permit limits for pollutants that measure performance such as BOD. Second, the pollutants could pass-through the treatment works into either the WWTP sludge or the receiving waters at levels exceeding permit or regulatory limits. From this inspection, EPA determined that the pollutants of concern at UGL Dayton likely include pH, oil and grease, toxic organics including phenolics, and zinc.



3.0 Compliance with Federal Standards

Industrial users must comply with the Federal categorical pretreatment standards that apply to their process wastewater discharges. 40 CFR 403.6(b).

Categorical industrial users must comply with the prohibition against dilution of the Federally-regulated waste streams as a substitute for treatment. 40 CFR 403.6(d).

Industrial users must comply with the provision restricting the bypass of treatment necessary to comply with any pretreatment standard or requirement. 40 CFR 403.17(d).

Summary

The Federal standards prohibit the discharge of all process-related wastewaters to the sewers if solvents are used in tank cleaning. According to UGL Dayton representative and based on the findings of this inspection, UGL Dayton appeared to fully comply with this Federal categorical prohibition by not discharging any process-related wastewaters to the sewer. However, there were three open floor drains leading to the sewers and one of these was located in the filling room.

Requirements

- If solvents are used in tank cleaning, then no process-related wastewater can be discharged to the floor drains leading to the sewers.

Recommendations

- If solvents are used in tank cleaning, then the floor drains on-site should be permanently sealed.
- If solvents are not used in tank clean, the floor drains should be bermed or seal-covered in order to ensure that wastewaters cannot inadvertently discharge to the sewers.



4.0 Compliance with Local Limits and National Prohibitions

All non-domestic wastewater discharges to the sewers must comply with local limits and the national prohibitions. 40 CFR 403.5(a,b,d).

Industrial users must comply with the provision restricting the bypass of treatment necessary to comply with any pretreatment standard or requirement. 40 CFR 403.17(d).

Summary

UGL Dayton does not currently discharge process-related wastewaters to the sewers. Federal rules may prohibit a future discharge to the sewers. But if the Federal rules do not preclude discharge, then UGL Dayton would have to obtain a local permit from Lyon County. No definitive conclusions regarding compliance upon inception of discharges can be made until (1) technically-based local limits for the pollutants of concern are enacted in a permit and (2) sampling begins. A permitted discharge would be unlikely to (but could) pose a risk of flammability or the pass-through of toxics to the receiving ground waters or the sludge.

Requirements

- None.

Recommendations

- UGL Dayton should identify the ingredients used on-site identified in the MSDS sheets as toxic pollutants.

4.1 National Objectives

The general pretreatment regulations were promulgated in order to fulfill the national objectives to prevent the introduction of pollutants that:

- (1) cause operational interference with sewage treatment or sludge disposal,
- (2) pass-through sewage treatment into the receiving waters or sludge,
- (3) are in any way incompatible with the sewerage works, or
- (4) do not improve the opportunities to recycle municipal wastewaters and sludge.

This inspection did not include an evaluation of whether achievement of the national objectives in 40 CFR 403.2 have been demonstrated by the Lyon County wastewater treatment plant through consistent compliance with their sludge and discharge limits.

4.2 Flammability

A permitted discharge of excess wash waters would not be expected to pose a risk of flammability because the wastewaters from latex-based paint formulation should entrain only



negligible amounts of volatile organics. However, oil-based paint formulation on-site makes it possible for a permitted wastewater discharge to inadvertently entrain flammable mineral spirits and aliphatic petroleum distillates such as Stoddard solvent.

4.3 Local Limits for Oxygen Demanding Pollutants and The National Prohibition Against Interference

A permitted discharge of excess wash water would not be expected to be high enough in organics strength to pose a risk of interference, with wastewater strengths significantly less than domestic sewage.

4.4 State and Local Limits for Toxic Metals, Cyanide, and Other Pollutants and The National Prohibition Against Pass-Through

A permitted discharge of excess wash water could pose a risk of pass-through of toxic pollutants and salts although that risk is unquantifiable at this point.

Toxic Pollutants - No conclusions can be made since local limits have not been advanced for the Lyon County industrial users. Nevertheless, the risk of pass-through to the ground water from a future permitted discharge from UGL Dayton would exist since the wastewaters could entrain significant levels of toxic organics, phenolics, zinc, and suspended solids. There are likely other toxic pollutants not covered by the standard analytical tests, possibly including organotins, toluene diisocyanate, naphtha, and plasticizers such as 2,2,4-trimethyl-1,3-pentanediol monoisobutyrate. Technically-based local limits would be expected for toxic organics, zinc, and suspended solids because the Federal sludge standards and the NDEP permit for Lyon County contain limits.

Salts - The pass-through risk for salts is unknown because there are no sample results for either chlorides, and total dissolved solids, or specific conductivity as an indicator measurement for salts. Technically-based local limits for chlorides, total dissolved solids, or specific conductivity would be expected because the NDEP permit for Lyon County limits chlorides in the ground water monitoring wells.

4.5 Local Limits for pH and Sulfides, and The National Prohibitions Against Safety Hazards and Corrosive Structural Damage

A permitted discharge of excess wash waters would not be expected to pose a risk of sewer collection system interferences related to the formation of hydrogen sulfide and the resulting acidic disintegration of the sewers because the wash waters would not be high-strength in biodegradable organics nor acidic in nature.



5.0 Compliance with Federal Monitoring Requirements

Significant industrial users must self-monitor for all regulated parameters at least twice per year unless the sewerage agency monitors in place of self-monitoring. 40 CFR 403.12(e) & 403.12(g).

Each sample must be representative of the sampling day's operations. Sampling must be representative of the conditions occurring during the reporting period. 40 CFR 403.12(g) and 403.12(h).

Summary

UGL Dayton does not currently discharge wastewater to the sewers. If the Federal oil-based formulating rules do not preclude the future discharge of process-related wastewaters, then the self-monitoring under local permit would consist of both self-certifications and selective sampling for certain pollutants of concern. Otherwise, if the Federal rules prohibit the discharge of process wastewaters, then self-monitoring is not required to be advanced through a local permit.

Requirements

- See Appendix 1 for the expected self-monitoring requirements for UGL Dayton if the Federal rules do not preclude the discharge of process-related wastewaters.

Recommendations

- None.



Appendix 1

Sewer Discharge Standards and Limits

UGL Dayton – If Federal Rules Do Not Preclude Future Discharge Under Permit

pollutants of concern (mg/l)	Fed Categorical Standards	NDEP Permit (d-max)	Nat'l Prohibtns (instant)	Proposed LocLimits (instant)	Proposed Monitoring Frequency
discharge (gals)	twice per year certification of no solvent tank cleaning	-	-	-	monthly
pH (s.u.)		-	<5.0 su.	5.5-10.0	twice/year
EC (µmohs/cm)		-	-	-	④
explosivity		-	① ②	-	twice/year
oil&grease - petroleum		-	-	150	twice/year
sulfides		-	-	0.1	④
BOD/COD		-	-	1000	④
total suspended solids		-	-	1000	twice/year
cadmium		-	-	③	④
chromium		-	-	③	④
copper		-	-	③	④
iron		-	-	③	④
lead		-	-	③	④
mercury		-	-	③	④
molybdenum		-	-	③	④
nickel		-	-	③	④
selenium		-	-	③	④
silver		-	-	③	twice/year
zinc		-	-	③	twice/year
total cyanide		-	-	③	④
amenable cyanide		-	-	③	-
total toxic organics		-	-	③	twice/year
temperature (°F)		-	⑤	③	-

① National-prohibitions - Closed-cup flash point <140°F and pH <5.0 su.

② Narrative prohibition against the introduction of flammable or explosive substances

③ Potential technically-based local limits to be re-adopted to ensure POTW permit compliance.

④ One-time sample of the excess wash waters

⑤ National-prohibitions - Not causing >104°F at POTW's wastewater treatment plant

Proposed Self-Monitoring Frequency **red** - increase **black** - no change **green** - decrease